Team Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Team Number: \_\_\_\_\_\_\_

**Dynamic Planet**

**Oceanography**

Science Olympiad: Division B

Cobra Invitational - 2015

**ANSWER SHEET**

**STATION 1**

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**Station 2**

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7. \_\_\_\_\_
8. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
9. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

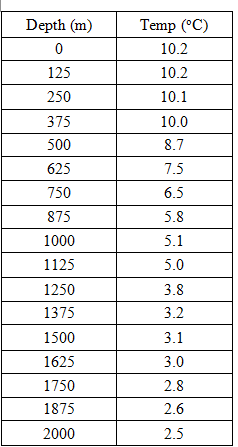
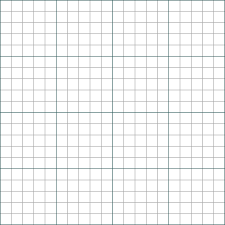
**Station 3**

* 1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
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2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. \_\_\_\_\_\_
4. \_\_\_\_\_\_

**Station 4**

1. Graph the data and identify the thermocline.



1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
4. \_\_\_\_\_\_

**Station 5**

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   3. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
   4. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
   5. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
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**Station 6**

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**Station 7**

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**Station 8**

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2. \_\_\_\_\_\_
3. 1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 3. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 4. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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   2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Station 9**

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**Station 10**

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**Station 11**

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**Station 12**

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**Station 13**

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**Station 15**

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3. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
4. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
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6. **SHOW YOUR WORK!**
7. **SHOW YOUR WORK!**

**Multiple Choice**

**\_\_\_\_69. The energy that drives surface ocean currents comes from \_\_\_\_.**

a. salinity variations

b. temperature differences

c. wind

d. wave action

**\_\_\_\_ 70. Ocean currents that move toward the poles are \_\_\_\_.**

a. warm

b. warm in the Northern Hemisphere and cold in the Southern Hemisphere

c. cold

d. cold in the Northern Hemisphere and warm in the Southern Hemisphere

**\_\_\_\_ 71 . What is true about an ocean current that is moving toward the equator?**

a. It is warm.

b. It is cold.

c. It is fast.

d. It is slow.

**\_\_\_\_ 72. The Gulf Stream affects the climate of \_\_\_\_.**

a. California

b. Alaska

c. Great Britain

d. Africa

**\_\_\_\_ 73. The influence of cold currents is mostly felt in the \_\_\_\_.**

a. middle latitudes during winter

b. higher latitudes during winter

c. higher latitudes during spring

d. tropics

**\_\_\_\_ 74. What causes surface ocean currents to be deflected?**

a. deep currents

b. Earth’s revolution

c. the Coriolis effect

d. global winds

**\_\_\_\_ 75. Which process does NOT decrease the salinity of water?**

a. runoff from land

b. precipitation

c. formation of sea ice

d. melting of sea ice

**\_\_\_\_ 76. Which of the following can cause an increase in the density of ocean water?**

a. a decrease in temperature

b. a decrease in ocean circulation

c. an increase in salinity

d. both a and c

e. all the above

**\_\_\_\_ 77. According to the conveyor belt model of ocean circulation, what happens when water reaches the poles?**

a. The salinity of the water increases.

b. The density of the water decreases.

c. The salinity of the water decreases.

d. The temperature of the water increases.

**\_\_\_\_ 78. Which of the following causes gyres to form?**

a. deep currents

b. the Equatorial Countercurrent

c. the Coriolis effect

d. West Wind Drift

**\_\_\_\_ 79. The curving of the path of ocean currents and wind belts is called**

a. tidal oscillation.

b. refraction.

c. the Gulf Stream.

d. the Coriolis effect.

**\_\_\_\_ 80. Deep currents are caused by**

a. differences in density of ocean water.

b. the Coriolis effect.

c. global wind belts.

d. continental barriers.

**\_\_\_\_ 84. Two climates that are at the same latitude may be different because of \_\_\_\_.**

a. bodies of water

b. Earth’s magnetic field

c. distance from the poles

d. soil type

**\_\_\_\_ 85. How would the climate of a coastal city differ from that of a city at the same latitude located farther inland?**

a. The coastal city would have cooler summers.

b. The coastal city would have hotter summers.

c. The coastal city would have colder winters.

d. They are at the same latitude so their climates would not differ.

**\_\_\_\_ 86. The temperature of a body of water influences \_\_\_\_.**

a. the temperature of the air above it

b. the formation of deserts

c. global warming

d. vegetation patterns

**\_\_\_\_ 87. What is the driving force for surface ocean currents?**

a. density layering

b. the Coriolis effect

c. global winds

d. salt concentration

**\_\_\_\_ 88. Ocean surface currents are created by**

a. differences in water temperature.

b. friction with winds.

c. differences in water density.

d. salinity variations.

**\_\_\_\_ 89. The ocean layer of rapid temperature change with depth is known as the \_\_\_\_.**

a. trophic level

b. mixed zone

c. deep zone

d. thermocline

**\_\_\_\_ 90. In addition to salinity, what factor affects the density of seawater?**

a. depth

b. temperature

b. latitude

d. salt content

**\_\_\_\_ 92. Most ocean water is located in which zone?**

a. mixed zone

b. surface zone

c. transition zone

d. deep zone